

# Planning the Implementation of a Strengthening Exercise Class for People with Multiple Sclerosis

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## Defining the problem

- Physical activity = key management component of Multiple Sclerosis (MS) (Amatya et al., 2019)
- People with MS (PwMS) participate in lower levels of activity (Kinnett-Hopkins et al., 2017) and lack a focus on strength activity (Manca et al., 2019)
- Current physiotherapy provision does not include a supervised exercise programme involving moderate resistance training (mapped against NICE Clinical Guidelines 186 (2014))

## The project aims

- To deliver a supervised strength training programme to PwMS

## Exploring the evidence

- Strength training in MS improves muscle strength (Gooch et al 2021)
- Guidelines for strength training provide basis for parameters of exercise but not a delivery method or a clearly defined exercise intervention (Gooch et al 2021)
- Benefits of group exercise for PwMS are documented (Clarke & Coote, 2015)

## The intervention

- A 6 week, face to face, group, strengthening exercise programme for people with mild to moderate MS based on current guidelines

## Using the Consolidated Framework for Implementation Research (CFIR) to understand context and select implementation strategies (CFIR Research Team, 2021)

| Domain                                | Influences of key constructs  | Implementation Plan Strategies   |
|---------------------------------------|---|--|
| <b>Intervention Characteristics</b>   | Evidence for strength training but not a clearly defined intervention & no current <b>Relative Advantage</b><br><b>Adaptability</b> in intervention<br>Able to run as small-scale test - <b>Trialability</b>  | Identify core components<br>Evaluation of effectiveness<br>Small cyclical tests of change  |
| <b>Outer Setting</b>                  | Some understanding of <b>Patient Needs and Resources</b> but lacking local context  | Public advisor(s) input<br>Use of Health Inequalities Assessment Tool (NIHR 2017)<br>Small cyclical tests of change  |
| <b>Inner Setting</b>                  | <b>Open Networks and Communication</b><br>Exercise groups an accepted norm for many conditions but potential for contradictory advice for PwMS - <b>Culture</b><br>New gym resources however shared gym space / Staffing limitation and reduced staff knowledge / Lack of leadership engagement.- <b>Readiness for Implementation</b> | Engagement of physiotherapy staff and professional leads<br>Explore and establish resources<br>Training needs analysis of delivery staff<br>Promotion of intervention with wider MDT |
| <b>Characteristics of Individuals</b> | General <b>Knowledge and Beliefs</b> around strength training however likely delivery staff education requirements<br>Emotional exhaustion high - <b>Individual Identification within the Organisation</b>  | Pre implementation education for delivery staff<br>Small cyclical tests of change.   |

### Core Components

- 6 exercises for major muscle groups
- 8-15 repetitions, 1-3 sets, 8-15 repetition maximum
- Advice for additional strength training routine at home.

### Public Advisor Input Considerations

- Flexibility in programme
- Knowledge of MS
- Self recording of exercise
- Timing of group

### Health Inequalities

- Low socioeconomic status appears to impact on physical activity

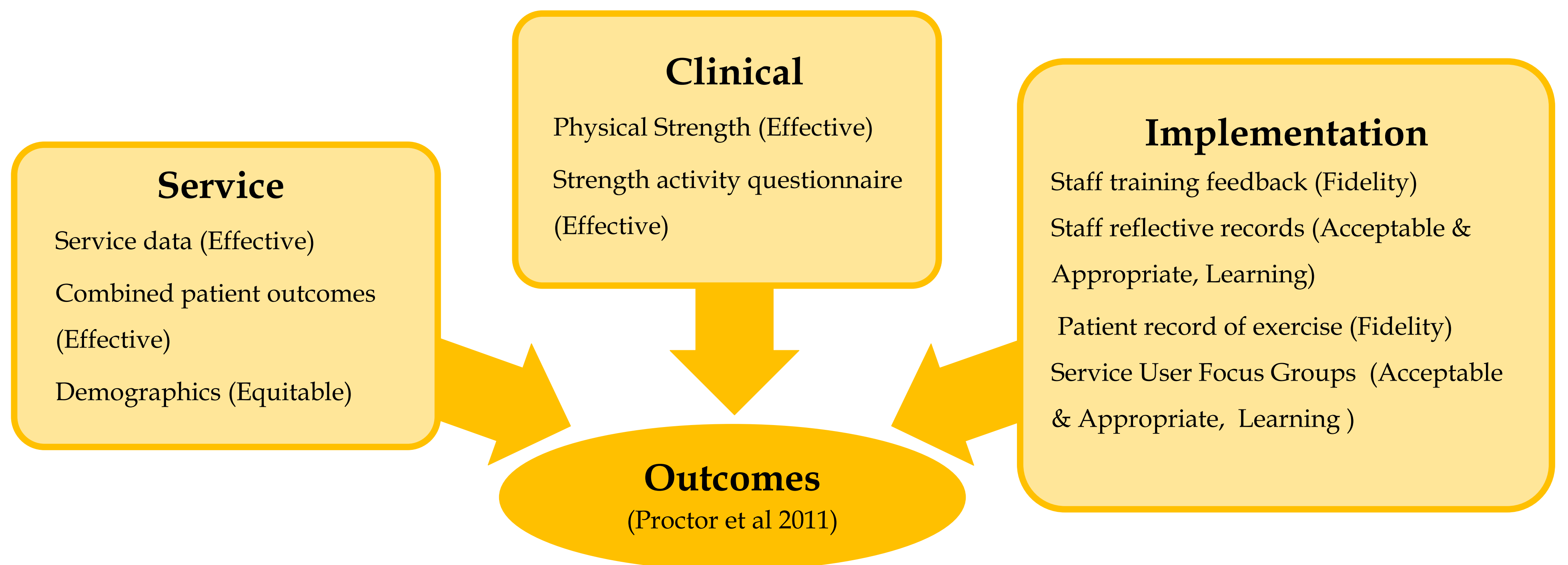
### Management Strategies

- Inequality education for staff
- Equity data monitoring
- Further public advisor input

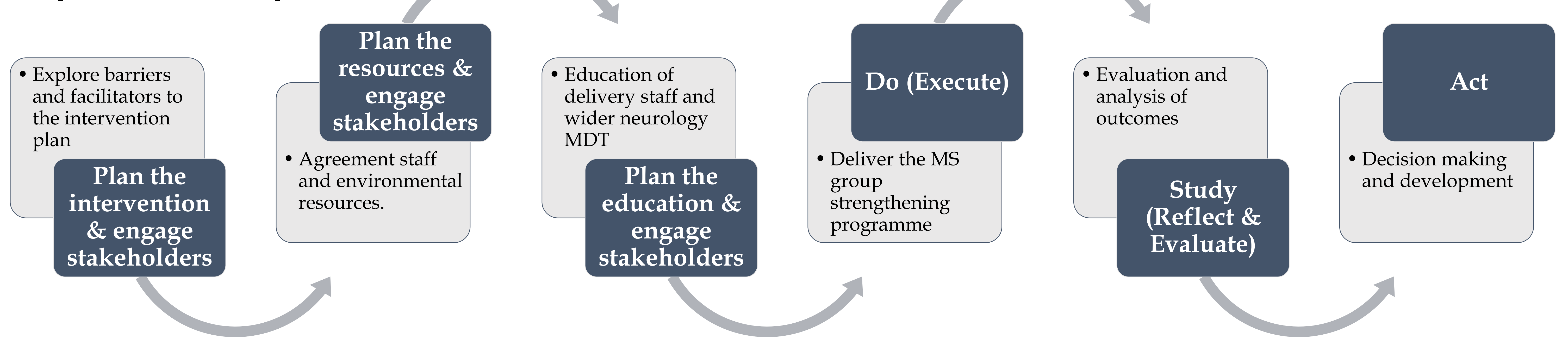
## Evaluating change

### Evaluation Questions (PREA Evaluation Toolbox 2010)

- To what extent has the intervention been **effective**?
- To what extent has the intervention been **acceptable** and **appropriate**?
- To what extent has the intervention been delivered as intended (**fidelity**)?
- What **learning** has taken place?
- Does the intervention reach & benefit all groups in an **equitable** manner?



## Implementation plan



## References

- Amatya, B., Khan, F., & Galea, M. (2019). Rehabilitation for people with multiple sclerosis: an overview of Cochrane Reviews. *Cochrane Database of Systematic Reviews*. Published. <https://doi.org/10.1002/14651858.cd012732.pub2>
- CFIR Research Team. (2021). *The consolidated framework for implementation research*. The Consolidated Framework for Implementation Research. Retrieved 12 November 2021, from <https://cfirguide.org>
- Clarke, R., & Coote, S. (2015). Perceptions of Participants in a Group, Community, Exercise Programme for People with Multiple Sclerosis. *Rehabilitation Research and Practice*, 2015, 1-7. <https://doi.org/10.1155/2015/123494>
- Gooch, H., Hill, J., & Clegg, A. (2021). Strength training for people with multiple sclerosis and the current recommendations. *British Journal of Neuroscience Nursing*, 17(Sup3), S32-S41. <https://doi.org/10.12968/bjnn.2021.17.sup3.s32>
- Kinnett-Hopkins, D., Adamson, B., Rougeau, K., & Motl, R. (2017). People with MS are less physically active than healthy controls but as active as those with other chronic diseases: An updated meta-analysis. *Multiple Sclerosis and Related Disorders*, 13, 38-43. <https://doi.org/10.1016/j.msard.2017.01.016>
- Manca, A., Dvir, Z., & Deriu, F. (2019). Meta-analytic and Scoping Study on Strength Training in People With Multiple Sclerosis. *Journal of Strength and Conditioning Research*, 33(3), 874-889. <https://doi.org/10.1519/jsc.0000000000002381>
- National Institute for Health and Care Excellence [NICE]. (2014). *Multiple sclerosis in adults: Management [CG186]*. <https://www.nice.org.uk/guidance/cg186>
- National Institute for Health Research [NIHR]. (2017). *Health inequalities assessment Toolkit*. [https://www.hiat.org.uk/resources/14941\\_HIAT\\_long\\_v8\\_web.pdf](https://www.hiat.org.uk/resources/14941_HIAT_long_v8_web.pdf)
- Pacific Research and Evaluation Associates [PREA]. (2010). *Developing a monitoring & evaluation plan*. Evaluation Toolbox. Retrieved 12 November 2021, from [http://www.evaluationtoolbox.net.au/index.php?option=com\\_content&view=article&id=20:developmentplan&catid=8:planning-your-evaluation&Itemid=159](http://www.evaluationtoolbox.net.au/index.php?option=com_content&view=article&id=20:developmentplan&catid=8:planning-your-evaluation&Itemid=159)
- Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., Griffey, R., & Hensley, M. (2010). Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda. *Administration and Policy in Mental Health and Mental Health Services Research*, 38(2), 65-76. <https://doi.org/10.1007/s10488-010-0319-7>

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